

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1-8. (Canceled)

9. (Currently Amended) A PIFA antenna arrangement for at least two mobile radio frequency bands having a desired separation from one another comprising:

a first antenna branch having a first section, a second section, a foot portion, and a first turning point, wherein the second section is connected to the first section and the foot portion, and the first turning point is located between the first and second sections~~between a first end and a second end of the first antenna branch;~~

a second antenna branch being alongside the first antenna branch and having a third section, a fourth section, and a second turning point~~first gap with the first antenna branch;~~ wherein the first antenna branch and the second antenna branch are is in the form of a-strips and connected at the first end-foot portion of the first antenna branch to form a series connection, the first section is parallel to the third section, the second section is parallel to the fourth section, a first gap is formed between the first and third sections, a second gap is formed between the second and fourth sections, and the first gap equals the second gap;

a ground connection, arranged at an outer edge of the first antenna branch facing away from the first gap; and

an RF supply connection is arranged at the outer edge of the second end of the first antenna branch where the ground connection is provided;

wherein the widths of the first antenna branch and the second antenna branch, the lengths of the first antenna branch and the second antenna branch, and the gaps between the first antenna branch and the second antenna branch are of such a size that the PIFA antenna structure has two resonant frequency bands that conform to the desired separation.

10. (Previously Presented) The PIFA antenna arrangement as claimed in claim 9, wherein the width of at least one of the first antenna branch and the second antenna branch is less than 1/15 of the wavelength of a higher-frequency frequency band.

11. (Previously Presented) The PIFA antenna arrangement as claimed in claim 10, wherein the width of at least one of the first antenna branch and the second antenna branch is less than $1/20$ of the wavelength of the higher-frequency frequency band.

12. (Previously Presented) The PIFA antenna arrangement as claimed in claim 9, wherein a distance between the ground connection and the RF supply connection is matched to a resonant frequency of one of the two resonant frequency bands.

13. (Previously Presented) The PIFA antenna arrangement as claimed in claim 9, wherein the area ratio of the first antenna branch and the second antenna branch corresponds to a ratio between two resonant frequencies.

14. (Currently Amended) The PIFA antenna arrangement as claimed in claim 9, further comprising:

a third antenna branch;

a fourth antenna branch being alongside the third antenna branch, wherein the third antenna branch and the fourth antenna branch is-are in the form of a-strips and the third antenna branch and the fourth antenna branch are connected in series at ~~the first end of the third antenna branch~~ a second foot portion, the fourth antenna branch having a second third gap with the third antenna branch, wherein the first antenna branch connects to the third antenna branch at the ground connection.

15. (Previously Presented) The PIFA antenna arrangement as claimed in claim 14, further comprising:

a further RF supply connection is arranged at an outer edge of the third antenna branch where the ground connection is provided.

16. (Previously Presented) The PIFA antenna arrangement as claimed in claim 15, wherein the RF supply connection and the further RF supply connection are joined together to form a common RF supply line.

17. (Original) The PIFA antenna arrangement as claimed in claim 14, wherein the arrangement has a substantially rectangular outer edge.

18. (Currently Amended) A PIFA antenna comprising:

a first antenna branch having an L-shape;

a second antenna branch having an L-shape, the second antenna branch being alongside the first antenna branch, and the second antenna branch having a first gap with the first antenna branch, wherein the second antenna branch is connected ~~at to~~ a first end of the first antenna branch to form a series connection and the first gap is in an L-shape;

a ground connection set near a second end of the first antenna branch; and

an RF supply connection, wherein the ground connection and the RF supply connection are arranged at an outer edge of the first antenna branch facing away from the first gap.

19. (Currently Amended) The PIFA antenna as claimed in claim 18, the first antenna branch further comprising a foot portion for connecting the second antenna branch, wherein a length of the foot portion is substantially equal to the gap, ~~distance between the ground connection and the RF supply connection is matched to a resonant frequency of the antenna.~~

20. (Currently Amended) The PIFA antenna as claimed in claim 18, further comprising:

a third antenna branch having an L-shape;

a fourth antenna branch having an L-shape, the fourth antenna branch being alongside the third antenna branch, wherein the third antenna branch and the fourth antenna branch are connected in series at ~~the first end of the third antenna branch~~ a second foot portion, the fourth antenna branch having a ~~second third~~ gap with the third antenna branch, wherein the first antenna branch connects to the third antenna branch at the ground connection.

21. (Previously Presented) The PIFA antenna as claimed in claim 20, further comprising:

a further RF supply connection is arranged at an outer edge of the third antenna branch where the ground connection is provided.

22. (Previously Presented) The PIFA antenna as claimed in claim 21, wherein the RF supply connection and the further RF supply connection are joined together to form a common RF supply line.

23. (New) The PIFA antenna as claimed in claim 18, wherein a free end of the second antenna branch and the second end of the first antenna branch forms an opening of the first gap.

24. (New) The PIFA antenna as claimed in claim 18, wherein the RF supply connection is set between the ground connection and the first end of the first antenna branch.

25. (New) The PIFA antenna as claimed in claim 19, wherein the second antenna branch has a first section and a second section, a first end of the first section connecting to the foot portion and a second end of the first section connecting to a first end of the fourth section at a turning point, wherein a first distance between a second end of the second section and the ground connection is substantially equal to the gap.

26 (New) A PIFA antenna comprising:

a first antenna branch, having a first turning point between a first end and a second end of the first antenna branch;

a second antenna branch being alongside to the first antenna branch and having a first gap with the first antenna branch therebetween, a first end of the second antenna branch connecting to the first end of the first antenna branch to form a series connection;

a ground connection arranged at a second end of the first antenna branch facing away from the first gap;

an RF supply connection arranged at the outer edge of the second end of the first antenna branch and located between the ground connection and the turning point,

wherein a second end of the second antenna branch and the second end of the first antenna branch form an opening of the gap.

27. (New) The PIFA antenna as claimed in claim 26, the first antenna branch further comprising:

a first section;
a second section connecting to the first section at the first turning point; and
a foot section, a first end of the foot section connecting to the second section, a second end of the foot section connecting to the second antenna branch,
wherein a length of the foot section is substantially equal to the gap.

28. (New) The PIFA antenna as claimed in claim 27, the second antenna branch further comprising:

a third section connecting to the second end the foot section and being parallel to the second section;

a fourth section connecting the third section,

wherein a first distance between the third section and the second section is substantially equal to a width of the gap.

29. (New) The PIFA antenna as claimed in claim 28, wherein a second distance between the fourth section and the first section is substantially equal to the width of the gap.